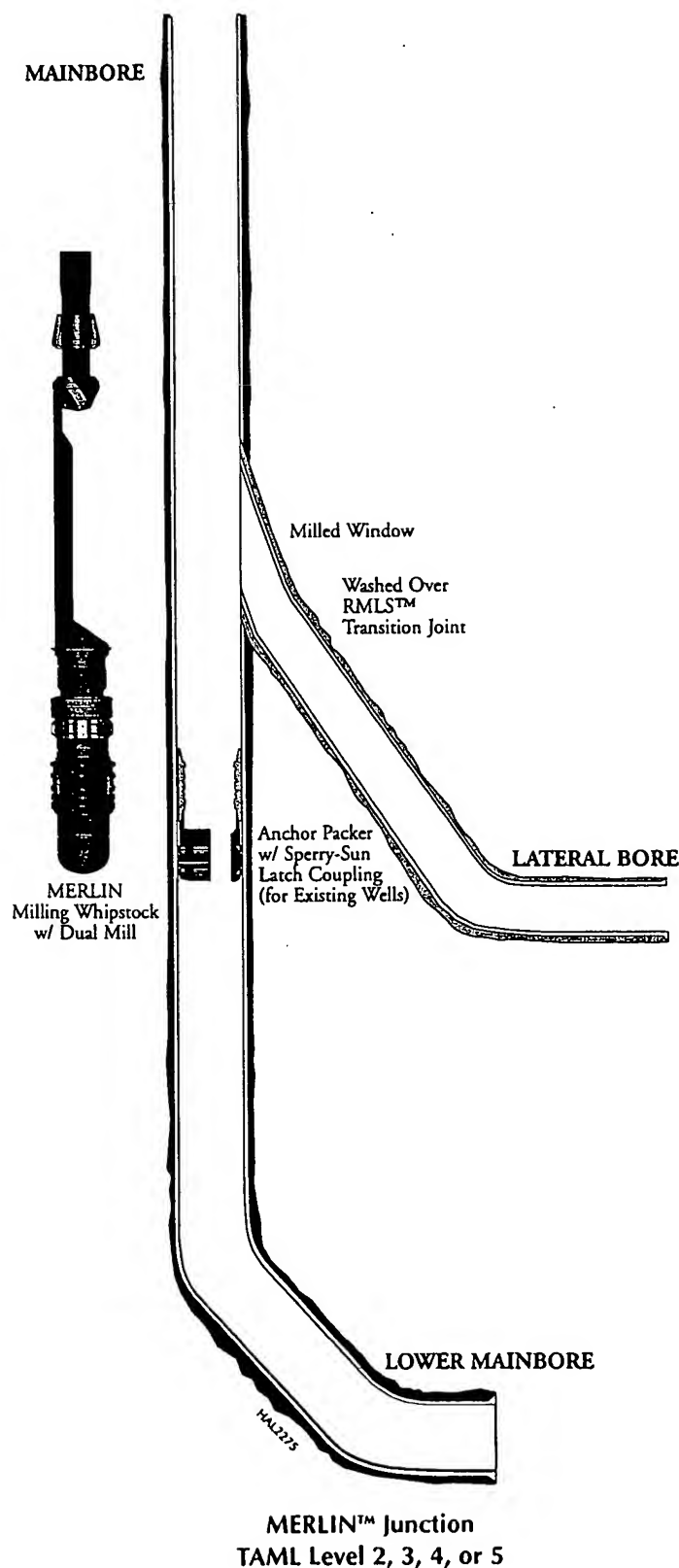


# Multilateral Services Profile

## MERLIN™ Milled Exit Retrievable Multilateral System ExitMaster™ Milled Casing Exit Systems



### Application

The MERLIN™ system is designed for use in new and existing wells that are to be developed as multilaterals to exploit additional zones or reserves. The MERLIN™ system is a special window milling design that allows the creation of near-rectangular windows at a precise depth and azimuth on a repeatable basis. This control of the window geometry and position makes the MERLIN™ windows particularly useful for levels 2, 3, and 4 wells, in which lateral re-entry and through-tubing re-entry is required and level 5 completions will be installed. The milled window has a full-gauge elongated aperture along its entire length that is exactly in line with the axis of the casing. The MERLIN™ system eliminates problems associated with conventionally milled windows in which window geometry is typically elliptical and spiraled with no control over precise depth, azimuth, and full-gauge section length. The straight, longer window geometry eliminates the dog leg severity problems that are seen when running lateral liners or tools into the lateral bore through conventional milled windows.

### Features

- Latch coupling and anti-rotation anchor packer system as MERLIN™ platform
- One trip Smith GageMax™ milling system for more precise control of window geometry and length
- Full-bore access to the mainbore if latch coupling is used or reduced access if anchor packer is used
- Full bore access to completed lateral
- Precise azimuth and depth control with anchor packer and latch coupling
- Compatible with RMLST™ retrievable multilateral system for level 4 junction creation
- Integral barriers and junk subs for debris collection and control

### Benefits

- Applicable to new or existing wells (re-entry)
- Can be completed as level 2, 3, 4, or 5 junction
- High mechanical integrity of level 3 and 4 junctions
- Window geometry and position control allows repeatable lateral re-entry of the well
- Compatible with a through-tubing LRST™ lateral re-entry system and level 5 MSCS® multi-string completion system
- Compatible with a wireline- or coiled tubing-conveyed WREAL™ wireline re-entry alignment whipstock
- Allows existing main well to be produced to lower economic threshold

# Multilateral Services *Specifications*

## MERLIN™ Milled Exit Retrievable Multilateral System ExitMaster™ Milled Casing Exit Systems



### Typical Installation Sequence

- Remove completion from existing well.
- Run in hole anchor packer and latch coupling, orient, and set.
- Run in hole MERLIN™ milling whipstock and set in latch coupling. Shear out and mill window.
- Retrieve milling whipstock, leaving packer and latch coupling as anchor and orientation reference.
- Run RMLS™ drilling whipstock with mills and dress junction.
- Drill lateral as required.
- Run in hole lateral liner and cement as required.
- Washover lateral liner top to re-open mainbore and retrieve whipstock. Install completion and flow well.

### MERLIN™ System Specifications

TAML Level 2 or 4				
System casing size	7 in. 177.8 mm	7 in. 177.8 mm	9-5/8 in. 244.5 mm	9-5/8 in. 244.5 mm
Casing weight	26-29 lb/ft	26-29 lb/ft	43-47 lb/ft	43-47 lb/ft
Window type	Milled			
Anchor type	Latch coupling	Anchor packer	Latch coupling	Anchor packer
Lateral liner type	None, drop liner, washed over transition joint			
Lateral hole size	6 in. 152.4 mm	6 in. 152.4 mm	8-1/2 in. 215.9 mm	8-1/2 in. 215.9 mm
Lateral liner size	4-1/2 in. 114.3 mm	4-1/2 in. 114.3 mm	7 in. 177.8 mm	7 in. 177.8 mm
Lower mainbore access	Full gauge 6.059 in.	Packer bore 4 in.	Full gauge 8.525 in.	Packer bore 6 in.

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DRILLING SERVICES

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